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ALGEBRAIC GEOMETRY AND COMMUTATIVE ALGEBRA SEMINAR

Speaker: Josh Pollitz
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Date: Wednesday, March 8, 2023
Time: 3:00 PM
Location: 258 Hurley Hall
Zoom URL: NA

Lecture Title:

Frobenius push forwards and generators for the derived category

Abstract

By now it is quite classical that one can understand singularities in prime characteristic local algebra/algebraic geometry, through properties of the Frobenius endomorphism. A foundational result illustrating this is the celebrated theorem of Kunz characterizing the regularity of a noetherian scheme (in prime characteristic) in terms of whether a Frobenius push forward on that scheme is flat. In this talk, I'll discuss a structural explanation of, that also recovers, the theorem of Kunz and other theorems of this ilk. Namely, I'll discuss recent joint work with Ballard, Iyengar, Lank, and Mukhopadhyay where we show that over an F-finite noetherian scheme of prime characteristic high enough Frobenius push forwards generate the bounded derived category.